AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A method for recognizing speech, comprising:

receiving, an input speech vector;

identifying a Gaussian distribution;

determining an address from the input speech vector, wherein the address includes a code representing the input speech vector and a code representing the Gaussian distribution;

using the address to retrieve a distance value for the Gaussian distribution from a table;

determining a probability of the Gaussian distribution using the distance value; and

recognizing the input speech vector based on the determined probability.

2. (Original) The method of claim 1, further comprising:

quantizing each of a plurality of dimensions of the input speech vector.

3. (Original) The method of claim 2, wherein the quantizing includes:

selecting an input value for the input speech vector from a subset of possible quantized input values.

4. (Original) The method of claim 2, wherein the determining an address includes:

concatenating a code representing the quantized input speech vector and a code representing the Gaussian distribution to form the address for accessing the table.

5. (Original) The method of claim 1, wherein the identifying includes:

identifying a plurality of Gaussian distributions.

6. (Original) The method of claim *5,* further comprising:

repeating the steps of determining an address, using, and determining a probability for each of the Gaussian distributions; and

identifying one or more of the Gaussian distributions with highest probabilities.

7. (Original) The method of claim 6, wherein the recognizing includes:

recognizing the input speech vector using the one or more Gaussian distributions with the highest probabilities.

8. (Original) The method of claim 1, further comprising:

generating the table.

9. (Previously Presented) The method of claim 8, wherein the generating includes:

identifying a set of means and variances,

identifying one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances, and

determining distance values for the one-dimensional Gaussian distributions, and storing the distance values in the table.

10. (Original) The method of claim 9, wherein the identifying a set of means and variances includes:

estimating the set of means and variances, and

determining a representative set of the means and variances from the estimated set of means and variances.

11. (Original) The method of claim 9, wherein identifying one-dimensional Gaussian distributions includes:

determining the one-dimensional Gaussian distributions from different combinations of the means and the variances in the identified set of means and variances.

12. (Original) The method of claim 8, wherein the generating includes:

identifying a set of means and variances,

identifying one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances,

determining distance values for the one-dimensional Gaussian distributions for each of a plurality of dimensions of a plurality of speech vectors, and

storing the distance values in the table.

13. (Original) The method of claim 1, wherein the determining an address includes:

determining a separate address for each of a plurality of dimensions of the input speech vector.

14. (Original) The method of claim 13, wherein the determining a separate address includes:

concatenating a code representing a dimension number and a code representing the Gaussian distribution to form each of the separate addresses.

15. (Previously Presented) A system for recognizing speech, comprising:

means for receiving a plurality of input speech vectors representing the speech;

means for identifying one or more Gaussian distributions for each of the input speech vectors;

means for determining an address from each of the input speech vectors, wherein each address includes a code representing the input speech vector and a code representing the one or more Gaussian distributions;

means for using the addresses to retrieve distance values for the Gaussian distributions from a table;

means for determining probabilities of the Gaussian distributions using the distance values; and

means for recognizing the speech based on the determined probabilities.

16. (Previously Presented) A system for recognizing speech, comprising:

a memory configured to store a plurality of Gaussian distributions and a distance table; and

a processor configured to receive a plurality of input speech vectors representing the speech, associate one or more of the Gaussian distributions with each of the input speech vectors, determine an address from each of the input speech vectors, wherein each address includes a code representing the input speech vector and a code representing the one or more of the Gaussian distributions, access the distance table using the addresses to retrieve a distance value for each of the Gaussian distributions, determine probabilities of the Gaussian distributions from the distance values, and recognize the speech based on the determined probabilities.

17. (Original) The system of claim 16, wherein the processor is further configured to quantize each of a plurality of dimensions of the input speech vectors.

18. (Original) The system of claim 17, wherein when quantizing each of the dimensions of each of the input speech vectors, the processor is configured to select an input value for the input speech vector from a subset of possible quantized input values.

19. (Original) The system of claim 17, wherein when determining an address, the processor is configured to combine a code representing the quantized input speech

vector and a code representing one of the Gaussian distributions to form the address for accessing the distance table.

20. (Original) The system of claim 16, wherein when determining probabilities, the processor is configured to identify one or more of the Gaussian distributions with highest probabilities and recognize the speech using the one or more Gaussian distributions with the highest probabilities.

21. (Original) The system of claim 16, wherein the processor is further configured to generate the distance table.

22. (Original) The system of claim 21, wherein when generating the distance table, the processor is configured to identify a set of means and variances, identify one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances, determine distance values for the one-dimensional Gaussian distributions, and store the distance values in the distance table.

23. (Original) The system of claim 22, wherein when identifying a set of means and variances, the processor is configured to estimate the set of means and variances and determine a representative set of the means and variances from the estimated set of means and variances.

24. (Original) The system of claim 22, wherein when identifying one-dimensional Gaussian distributions, the processor is configured to determine the one-dimensional Gaussian distributions from different combinations of the means and the variances in the identified set of means and variances.

25. (Original) The system of claim 21, wherein when generating the distance table, the processor is configured to identify a set of means and variances, identify one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances, determine distance values for the one-dimensional Gaussian distributions for each of a plurality of dimensions of a plurality of speech vectors, and store the distance values in the table.

26. (Original) The system of claim 16, wherein when determining an address, the processor is configured to determine separate addresses for each of a plurality of dimensions of the input speech vectors.

27. (Original) The system of claim 26, wherein when determining each of the separate addresses, the processor is configured to combine a code representing a dimension number and a code representing the Gaussian distribution.

28. (Previously Presented) A computer-readable medium that stores instructions executable by one or more processors to perform a speech recognition method, comprising:

instructions for obtaining an input speech vector having multiple dimensions;

instructions for quantizing each of the dimensions of the input speech vector;

instructions for identifying one or more one-dimensional Gaussian distributions;

instructions for accessing a table to retrieve a distance value for each of the one or more one-dimensional Gaussian distributions using an address including a code representing the quantized input speech vector and a code representing the one or more one-dimensional Gaussian distributions;

instructions for determining probabilities of the one or more one-dimensional Gaussian distributions using the distance values; and

instructions for recognizing the input speech vector from the determined probabilities.

29. (Previously Presented) A computer-readable medium that stores instructions executable by one or more processors to perform a speech recognition method, comprising:

instructions for obtaining an input speech vector having multiple dimensions;

instructions for identifying one or more one-dimensional Gaussian distributions;

instructions for accessing a table to retrieve a distance value for each of the one or more one-dimensional Gaussian distributions and each of the dimensions of the input speech vector using an address including a code representing the input speech vector and a code representing the one or more one-dimensional Gaussian distributions;

instructions for determining probabilities of the one or more one-dimensional Gaussian.

30. (Currently Amended) A computer implemented speech recognition method ~~for generating a table for use in Gaussian distribution probability calculations during speech recognition~~, comprising:

receiving an input speech vector;

identifying a set of means and variances;

identifying one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances;

determining distance values for the one-dimensional Gaussian distributions[[ ]];

determining a subset of possible quantized input values[[ ]]; and

storing in a table for use in Gaussian distribution probability calculations during speech recognition of the input speech vector, each distance value with a corresponding address including a code representing one of the possible quantized input values and a code representing one of the one-dimensional Gaussian distributions ~~in the table~~.

31. (Original) The method of claim 30, wherein the identifying a set of means and variances includes:

estimating the set of means and variances, and

determining a representative set of the means and variances from the estimated set of means and variances.

32. (Original) The method of claim 31, wherein identifying one-dimensional Gaussian distributions includes:

determining the one-dimensional Gaussian distributions from different combinations of the means and the variances in the identified set of means and variances.

33. (Currently Amended) A computer implemented speech recognition method ~~for generating a table for use in Gaussian distribution probability calculations during speech recognition~~, comprising:

receiving an input speech vector;

identifying a set of means and variances;

identifying one-dimensional Gaussian distributions to be used for recognition using the identified set of means and variances;

determining distance values for the one-dimensional Gaussian distributions for each of a plurality of dimensions of a plurality of speech vectors; and

storing in a table for use in Gaussian distribution probability calculations during speech recognition of the input speech vector, the distance values with corresponding addresses, each address including a code representing a dimension number for one of the plurality of dimensions and a code representing a corresponding one-dimensional Gaussian distribution ~~in the table~~.

34. (Original) A method for determining multi-dimensional Gaussian distribution likelihood for an input speech vector using a small number of one-dimensional Gaussian distributions, comprising:

receiving an input speech vector having a plurality of dimensions;

identifying a one-dimensional Gaussian distribution for each dimension of the input speech vector;

determining, from a table, probabilities of the one-dimensional Gaussian distributions for the dimensions of the input speech vector using codes representing the one-dimensional Gaussian distributions and numbers representing the dimensions; and

determining the likelihood of a multi-dimensional Gaussian distribution based on the determined probabilities.

35. (Original) The method of claim 34, wherein the identifying includes:

identifying a one-dimensional Gaussian distribution for each dimension of each multi-dimensional Gaussian distribution under consideration.

36. (Original) The method of claim 34, further comprising:

identifying a set of means and variances;

identifying the small number of one-dimensional Gaussian distributions from the identified set of means and variances;

determining distance values for the one-dimensional Gaussian distributions; and

storing the distance values in the table.

37. (Original) The method of claim 36, wherein the identifying the small number of one-dimensional Gaussian distributions includes:

determining the codes representing the one-dimensional Gaussian distributions from codes representing the means and codes representing the variances in the identified set of means and variances.

38. (Original) A system for determining multi-dimensional Gaussian distribution likelihood for an input speech vector using a small number of one-dimensional Gaussian distributions, comprising:

a memory configured to store instructions for obtaining an input speech vector having a plurality of dimensions, identifying a one-dimensional Gaussian distribution for each dimension of the input speech vector, determining, from a table, probabilities of the one-dimensional Gaussian distributions for the dimensions of the input speech vector using codes representing the one-dimensional Gaussian distributions and numbers representing the dimensions, and determining the likelihood of multi-dimensional Gaussian distributions based on the determined probabilities; and

a processor configured to execute the instructions in the memory.

39. (Original) The system of claim 38, wherein the instructions for identifying include:

instructions for identifying a one-dimensional Gaussian distribution for each dimension of each multi-dimensional Gaussian distribution under consideration.

40. (Original) The system of claim 38, wherein the memory is further configured to store instructions for identifying a set of means and variances, identifying the small number of one-dimensional Gaussian distributions from the identified set of means and variances, determining distance values for the one-dimensional Gaussian distributions, and storing the distance values in the table.

41. (Original) The method of claim 40, wherein the instructions for identifying the small number of one-dimensional Gaussian distributions include:

instructions for determining the codes representing the one-dimensional Gaussian distributions from codes representing the means and codes representing the variances in the identified set of means and variances.

42. (Original) A computer-readable medium that stores instructions executable by one or more processors to perform a method for determining multi-dimensional Gaussian distribution probabilities for an input speech vector using a small number of one-dimensional Gaussian distributions, comprising:

instructions for receiving an input speech vector having a plurality of dimensions;

instructions for identifying a one-dimensional Gaussian distribution for each dimension of the input speech vector;

instructions for determining, from a table, probabilities of the one-dimensional Gaussian distributions for the dimensions of the input speech vector using codes representing the one-dimensional Gaussian distributions and numbers representing the dimensions; and

instructions for determining the probabilities of multi-dimensional Gaussian distributions based on the determined probabilities of the one-dimensional Gaussian distributions.

43. (Original) The computer-readable medium of claim 42, wherein the instructions for identifying include:

instructions for identifying a one-dimensional Gaussian distribution for each dimension of each of the multi-dimensional Gaussian distributions.

44. (Original) The computer-readable medium of claim 42, wherein the instructions for determining probabilities of the one-dimensional Gaussian distributions include:

instructions for using the one-dimensional Gaussian distribution codes and the dimension numbers as addresses for accessing the table.